

1 and 23. In example 1, it is polypropylene homopolymer with no ethylene and in example 23, it is a propylene ethylene copolymer with 2.5% by weight of ethylene and 97.5% by weight of propylene. The applicants have amended claim 18 as suggested by the Examiner. Support for newly added claim 28 can be found in the examples and in claim 17. Support for newly added claims 29-30 can be found in examples 1 and 23 as discussed above. No additional fee is required for the extra claims.

The Examiner stated that the amendment filed February 28, 2000 could not be entered because formulas were taped on the amendment. Amended claim 17 does not include any paste-ups. The applicants respectfully request that previous amendment be entered since this amendment includes the other amendment plus further changes. The applicants have enclosed a copy of the amendment filed February 28, 2000.

Claims 15 and 17-28 were rejected under 35 U.S.C. §112, first paragraph. The Examiner stated that it was unclear what precise melting points and peak widths were represented. Furthermore, the Examiner alleged that the multi modal compositions of the specification also do not appear to teach on which peak the peak widths are measured. Claims 17-20 and 23-27 were rejected under 35 U.S.C. §112, first paragraph. The Examiner stated that the specification while being enabled for processes for using racemates of chiral metallocenes as catalysts, does not reasonably provide enablement for process using any and all metallocene catalysts. Claims 15, 17-20 and 24-28 were rejected under 35 U.S.C. §112, first paragraph for reasons stated in paragraph no. 6 of Paper No. 19. Claims 15 and 17-28 were rejected under 35 U.S.C. §112, second paragraph. Claims 20 and 26 were rejected under 35 U.S.C. §112, fourth paragraph. Claims 15 and 17-28 were rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious

over EP '734. Claims 17-20, 24-26 and 27-28 were rejected under 35 U.S.C. §103(a) as being unpatentable over EP '046 or EP '046 and WO '414 both optionally and further taken with EP '189 and Kaminsky. The applicants respectfully traverse these rejections.

**35 U.S.C. §112, First Paragraph Rejections**

Claims 15 and 17-28 were rejected under 35 U.S.C. §112, first paragraph. More specifically these claims were rejected for the reasons set forth in paragraphs 4a, 4b, 5a, 5b, 5c, 5d and 6 of Paper No. 19.

With respect to paragraphs 4a, 5a and 6a(i), the Examiner doubts that the expression "(heating/cooling rate 20°C)" in claim 17 has support in the specification. However, this expression can be found on page 14, line 18 of the specification. With respect to the objection to the brackets, the applicants have deleted the brackets. oil

With respect to paragraph 4b, the applicants have amended the wording of claim 18 to "...direct polymerization of propylene or copolymerization of propylene with olefins selected from the group consisting of ethylene, 1-butylene..." (for support *see* page 12, lines 18-30 of the specification). oil

With respect to paragraphs 5b and 6a(iii), claim 17 states that the DSC spectrum is determined with a heating/cooling rate of 20°C. This information is sufficient to a person of ordinary skill in the art to repeat the measurement (*see* the enclosed copy of pages 589 and 590 of Ser van der Ven, "Polypropylene and other Polyolefins"). The first heating and cooling step of the DSC measurement give the standardized thermal history, which is necessary to obtain reliable data. The

amended claim 17 then states that "the composition is characterized by a broad melting range". It is clear that the melting peak is the peak of the DSC spectrum which showing a maximum in the curve, the half-intensity width of the melting peak is the width at exactly half the height of the maximum of the curve and the width at quarter peak height is the width at exactly the quarter height of the curve. The different melting points of the at least two polyolefins are clearly related to the melting points of the components. See page 3, lines 20-25 of the specification. See also page 2, lines 26-30 of the specification.

With respect to paragraph 5c, the applicants have clarified claim 17 by defining that the transition-metal components are at least two *racemic or s-symmetric* metallocenes. The separation of the stereoisomers of the metallocene complexes is known by a person of ordinary skill in the art of metal organic chemistry. This is also stated in the applicants' specification at page 8, lines 13 and 14. Support for the s-symmetry can be found in the applicants' specification at page 8, lines 10-12 and in example 16.

With respect to paragraph 5d, the applicants believe that the specification enables the process as defined in claim 17, where the metallocenes of formula I are used and these metallocenes are *racemic or s-symmetric* metallocenes. This is clearly not "any and all metallocenes".

With respect to paragraph 6a(ii), the applicants have deleted the limitation the wording "the melting point of the lower melting component is lower than any melting point of the composition."

With respect to paragraph 6a(iv), the applicants have deleted the word "can".

With respect to paragraph 6a(v), the applicants have deleted the expressions "for the linear type" and "for the cyclic type".

With respect to paragraph 6a(vi), the applicants have amended the definitions the radicals  $R^3$  and  $R^4$  as defined on page 7, lines 16-20.

With respect to paragraph 6a(vii), the applicants have amended n in formula (II) and (III) to "n".

With respect to paragraph 6b, the applicants have amended the list of co-monomers in claim 18 as a proper Markush group.

For the above reasons these rejections should be withdrawn.

#### **35 U.S.C. §112, Second Paragraph Rejections**

Claims 15 and 17-28 were rejected under 35 U.S.C. §112, second paragraph. The applicants have amended these claims as suggested by the Examiner and believe that these claims as amended are in compliance with 35 U.S.C. §112, second paragraph. With respect to claim 24, the Examiner stated that it is unclear what definitions of  $R^{11}$  and  $R^{12}$  when they are connected to form a ring.  $R^{11}$  and  $R^{12}$  would be one of the definition of carbon groups described for  $R^{11}$  and  $R^{12}$ . The carbon group would be connected together to form a ring. For the above reasons this rejection should be withdrawn.

#### **35 U.S.C. §112, Fourth Paragraph Rejection**

Claims 20 and 26 were rejected under 35 U.S.C. §112, fourth paragraph. In order to expedite prosecution the applicants have canceled these claims.

**Objection to Claims**

Claim 17 is objected to because of the claim used the word polymerized instead of polymerization. The applicants have made this correction as suggested by the Examiner. Therefore this rejection should be withdrawn.

**Rejection over EP '734**

Claims 15 and 17-18 were rejected under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over EP '734. The applicants' claimed invention requires at least one of the at least two metallocenes have  $R^3$  as a substituted indenyl ligand or a fluorenyl ligand which optionally substituted. The applicants believe that EP '734 does not disclose nor teach this. EP '734 has seven examples using zirconocene hafnocene catalysts. In these seven examples all the indenyls were tetrahydroindenyl or unsubstituted. There are no examples to using fluorenyl (substituted or unsubstituted) or a substituted indenyl as is required by the claimed invention. In addition, the applicants have enclosed a declaration from Dr. Winter executed September 21, 1999 filed in the related application 08/679,558. Serial number 08/679,558 is a continuation application of this application. The declaration established that the polymers produced are completely different.

Furthermore, dependent claim 29 is further removed since it requires that the metal be zirconium in all cases. The examples of EP '734 teach using a combination of a hafnocene and zirconocene but not at least two zirconocenes. For the above reasons this rejection should be withdrawn.

**35 U.S.C. §103 Rejection**

Claims 17-20, 24-26 and 27-28 were rejected under 35 U.S.C. §103(a) as being unpatentable over EP '046 or EP '046 and WO '414 both optionally further taken with EP '189 and Kaminsky.

EP '046 refers to ethylene copolymers "polyethylene and copolyethylene-alpha-olefins" (see page 2, lines 32-34 of EP '046). The applicants believe that the claimed invention which requires that the portion of ethylene of the polymerized monomers is so chosen that the ethylene content of the resulting polyolefin composition is from 0 to 2.5% by weight is clearly taught away from by both of these primary references. The ethylene content in the examples ranged from 65% up to over 96%. Most of the examples had at least 90% ethylene.

WO '414 also refers to polyethylene which contains ethylene in an amount of 70 to 100%, typically from 70 to 97%, and often from 70 to 80, 80 to 90 and 90 to 95 mol % (see page 6, lines 14 to 20). In addition, as the Examiner has recognized WO '414 does not teach metallocenes as set forth in formula I.

EP '046 and WO '414 do not teach nor suggest the applicants' claimed polypropylene molding composition. Both of these references teach a polyethylene composition containing at least 70 mol % ethylene with a smaller portion of propylene and not a polypropylene composition. Therefore, the primary references teach away from the applicants' claimed invention and there is no motivation from the secondary references to arrive at the applicants' claimed invention. For the above reasons this rejection should be withdrawn.

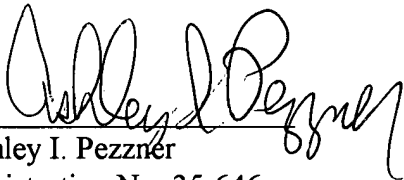
A one month extension fee has been paid. If there are any additional fees due in connection

with the filing of this response, including any fees required for an additional extension of time under 37 C.F.R. 1.136, such an extension is requested and the Commissioner is authorized to charge or credit any overpayment to Deposit Account No. 03-2775.

For the reasons set forth above, Applicants believe that the claims are patentable over the references cited and applied by the Examiner and a prompt and favorable action is solicited. The applicants believe that these claims are in condition for allowance, however, if the Examiner disagrees, the applicants respectfully request that the Examiner telephone the undersigned at (302) 888-6270.

Respectfully submitted,

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AIP/cam

Enclosures: Copy of Amendment filed February 28, 2000  
pages 589 and 590 of Ser van der Ven, "Polypropylene and other Polyolefins

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